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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
POON, KING Y	
ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/033,585	NAGASHIMA, TAKEYUKI	
	Examiner	Art Unit	
	King Y. Poon	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 4, 6, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laumeyer et al. (U.S. Patent # 5,572, 632) in view of Zandee et al. (U.S. Patent # 5,872,895) and Shimomura et al (US 5,495,542).

Regarding claims 1, 12, and 14: Laumeyer et al. teach an image processing apparatus system (10, column 10, lines 6-10) comprising: a communicator (the data communication function of system 10, column 10, lines 4-10, column 9, lines 40-50) for performing communications with an image output unit (19, fig. 1) that includes an update unit (the program of the control system that stores profiles for new media, column 11, lines 50-60) for updating condition information (profile information) indicating a condition of the image output unit and a memory (the device of the control system that is used to store profile, column 11, lines 50-60) for storing the condition information, wherein the condition information is obtained by forming color patches and measuring colors on the color patches; (column 10); an input unit (control, column 11, lines 61-67) for inputting an image output instruction; (18, fig. 2) an acquisition unit (the function part of

device 12, column 12, lines 27-45 for using a profile stored for color transformation) for acquiring the condition information (data in the profile), in response to the image output instruction; (fig. 2); an image processor (device 12, column 12, lines 35-45) for performing image processing of image data in accordance with the condition information (data in the profile) acquired by said acquisition unit, quantizing the processed image data, (density of color patches to be used for printing, column 11, lines 15-20, column 10, lines 25-35, the densities of color patches to be used are quantized, ie., 10%, 20%, etc., of maximum density of CMY used), and outputting the quantized image data to the image output unit (17, fig. 1) using the communicator (the data communication function of system 10, column 10, lines 4-10, column 9, lines 40-50).

Laumeyer does not teach a two-way communicator and the acquisition unit to use the communicator for acquiring the condition information (profile) stored in the image output unit.

Zandee et al., in the same area of performing color transformation by a computer system using device profile, teaches a two-way communicator (the program of computer system, column 4, lines 5-15, that used to obtain data for profile, column 4, lines 20-25, transmitted between printers/devices, column 4, lines 20-37, column 3, line 9; and sending data for print instructions to the printer, column 3, lines 50-65) and an acquisition unit (ColorSync Utilities, column 4, line 15) using the communicator to acquire the condition information (profile) stored in the image output unit (column 4, lines 15-30).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer to include: a two-way communicator and the

acquisition unit to use the communicator for acquiring the condition information (profile) stored in the image output unit.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer by the teaching of Zandee et al. because of the following reasons: (a) a two-way communicator would have allowed the image processor not only sending print data from the image processor to the printer but also obtaining printer profile stored in the printer; (b) obtaining printer profile from the printer would have allowed the image processor to perform color transformation in case the printer profile is not located in the image processor but located in the printer; and (c) it would have allowed the image processor to update profiles located in the image processor so that the image processor would have a complete and up to day profiles for the system.

Laumeyer as modified by Zandee still does not teach wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

Shimomura, in the same area of transmitting data to a printer, teaches decreases bit length (N, column 1, lines 20-35) for each pixel (column 1, line 22) of the processed image data and then outputs (transmit, column 1, line 32) the bit decreased image data to the image output unit (copying machines, column 1, line 21) via communication line. (Transmission lines, column 1, line 29)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer/Zandee to include: wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer/Zandee by the teaching of Shimomura because of the following reasons: (a) to obtain industrial advantages as taught by Shimomura at column 1, lines 40-50; and (b) it would have reduced time and cost to transmit the image data, as taught by Shimomura at column 1, lines 30-32.

Regarding claim 3: Laumeyer teaches wherein the condition information is a measurement result of a plurality of patches outputted by the image output unit (column 10, lines 25-55).

Regarding claim 4: Laumeyer wherein the image processor converts image data into multi-valued data (column 8, lines 45-56, column 9, lines 15-40) corresponding to a type of a recording medium (each medium, column 11, lines 50-60) used in the image output unit, and performs image processing (column 12, lines 27-47) in accordance with the condition information.

Regarding claim 6: Laumeyer et al. teach a user interface (console 18, column 12, lines 1-15) for setting whether or not the image processing is done in accordance with the condition information (user select print media, column 12, lines 1-15; since each print medium has its unique condition information, column 11, lines 50-61, the selecting of one print media is setting image

processing to be done in the in accordance with the condition information of the selected print medium).

3. Claims 7-11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thieret et al. (U.S. Patent # 5,923,834) in view of Laumeyer et al. (U.S. Patent # 5,923,834) and Shimomura (US 5,495,542).

Regarding claims 7, 13, and 15: Thieret teaches an image processing apparatus (level 2 server/network server of column 11 lines 42-60) connected, via a communication network, (fig. 6) with a host computer (column 1 lines 10-31, level 3 server of column 11 lines 60-67, column 10, lines 55-65) and a plurality of image output units, (machine 1, 2, 3 of fig. 6) each image output unit having a function (see the function of the optical sensor of column 6 line 5-25) of updating condition information of the image output unit, (column 9 line 30-31), the condition information being obtained by forming color patches and measuring colors on the color patches (test patches, column 5, lines 15-35, column 6, lines 5-25) the apparatus comprising: an input unit (communication interface of column 7 line 34-45) for inputting the condition information updated by the plurality of image output units; a memory (column 8 line 59-65) for storing the inputted condition information in association with each of the plurality of image output units; a transmitter (communication interface of column 7 line 34-47) for transmitting the stored condition information to the host computer in accordance with a request (see user initiated request, column 1 line 10-30) for acquiring the condition information issued by the host computer; and a

management unit (see the data base for job scheduling, column 9 line 30-40) for managing an image output job of the host computer, (see job routing of column 10 line 55-65) wherein the condition information is obtained by forming color patches and measuring colors on the color patches (See column 6 line 5-26).

Thieret does not teach wherein the host computer performs image processing of image data in accordance with the condition information transmitted by the transmitter, quantizes the processed image data, and wherein each of the plurality image output units outputs an image based on the image data processed by the host computer.

Laumeyer et al., in the same area of printing image by a printer using printer condition information teaches a host computer (10, fig. 1, column 7, lines 19-20) performs image processing of image data (column 10, lines 4-10, column 12, lines 27-45)in accordance with condition information (data in profiles, column 11, lines 50-60, column 12, line 28), and quantizes the processed image data (density of color patches to be used for printing, column 11, lines 15-20, column 10, lines 25-35, the density of color patches to be used are quantized, ie., 10%, 20%, etc., of maximum density of CMY used), and each of a plurality image output units (19, fig. 1) outputs an image based on the image data processed by the host computer (column 9).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret to include: wherein the host computer performs image processing of image data in accordance with the condition information transmitted by the

transmitter, quantizes the processed image data, and wherein each of the plurality image output units outputs an image based on the image data processed by the host computer.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret by the teaching of Laumeyer et al. because of the following reasons: (a) it would have allowed the host to output a print job to the image output unit; and (b) it would have allowed the host to perform the image processing and thereby reduced the workload in the image output unit, and allowed the image output unit to print faster for not having to process the image in the printer.

Thieret as modified by Laumeyer still does not teach wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

Shimomura, in the same area of transmitting data to a printer, teaches decreases bit length (N, column 1, lines 20-35) for each pixel (column 1, line 22) of the processed image data and then outputs (transmit, column 1, line 32) the bit decreased image data to the image output unit (copying machines, column 1, line 21) via communication line. (Transmission lines, column 1, line 29)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret/Laumeyer to include: wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret/Laumeyer by the teaching of Shimomura because of the following reasons: (a) to obtain industrial advantages as taught by Shimomura at column 1, lines 40-50; and (b) it would have reduced time and cost to transmit the image data, as taught by Shimomura at column 1, lines 30-32.

Regarding claim 8: Thieret teaches a second management unit for managing an image output job for an image output unit (the part of data base used for print queues management, column 9 line 30-39).

Regarding claim 9: Thieret teaches wherein the image output unit comprises: an engine unit; (see marking engine of column 4 line 30-45) a condition acquisition unit (optical sensor, column 6 line 5-26) for automatically acquiring the condition information in accordance with a change in status (TRC curve of IOT, column 6) of the engine unit; and a memory (level 2 senser of column 6 line 25-60) for storing the acquired condition information.

Regarding claim 10: Thieret teaches a user interface (214, column 9, lines 65-67, column 10, lines 1-3, column 10, lines 38-41) for setting (interconnecting diagnostic device, column 10, lines 1-3) whether or not the image processing is done in accordance with the condition information (processing print job according to the condition of the printer (diagnostic data) such as paper size, color, current quality capability of the printer, column 9, lines 20-40).

Regarding claim 11: Thieret teaches an image processing method (column 6)for performing image processing in a network system (220 of fig. 5) to which an image output

apparatus, (machine 222 of fig. 5) a server, (network server, 218 of fig. 5, 256, column 10, line 36) and a network terminal (host machine, column 10, line 61) are connected, the method comprising: in the image output apparatus: a condition measurement step (the function of optical sensor of column 6 line 5-25) of updating condition information (column 9 line 30-31) by forming color patches and measuring colors on the color patches; (column 6 line 5-25) and a notification step (see the passing of sensed data to the servers of fig. 5, column 7 line 39-41) of notifying the server of the updated condition information, (column 9 line 30-31) in the server: a storage step (column 8 line 59-67) of storing the updated condition information notified from the image output apparatus in correspondence with a type of the image output apparatus; (column 10 line 4-7) and a management step of managing an image output job, (see queues management and job scheduling, column 9 line 30-40); and in the network terminal: an acquisition step of acquiring the updated condition information stored in the server (column 9, lines 20-40, column 11, lines 60-67).

Thieret et al. do not teach the network terminal includes: an input step of inputting an image output instruction of a user; an acquisition step of acquiring the updated condition information stored in the server in response to the image output instruction; an image processing step of performing image processing using an image processing condition in accordance with the updated condition information, quantizing the processed image data and outputting the quantized image data to the image output apparatus.

Laumeyer et al. teach a host terminal (10, fig. 1, column 7, line 19) includes: an input function of inputting an image output instruction (sending a print job, column 11, lines 62-67, command of column 12, line 29) of a user; (operator, column 11, line 65); an acquisition function of acquiring the updated condition information (chosen printer profiles, column 12, lines 29-31) in response to the image output instruction; an image processing function of performing image processing using an image processing condition in accordance with the updated condition information; (column 12, lines 27-45), quantizing the processed image data, (density of color patches to be used for printing, column 11, lines 15-20, column 10, lines 25-35, the densities of color patches to be used are quantized, ie., 10%, 20%, etc., of maximum density of CMY used), and outputting the quantized image data to the image output unit (17, fig. 1).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Thieret by the teaching of Laumeyer to include in the network terminal: an input step of inputting an image output instruction of a user; an acquisition step of acquiring the updated condition information in response to the image output instruction; an image processing step of performing image processing using an image processing condition in accordance with the updated condition information, quantizing the processed image data and outputting the quantized image data to the image output apparatus.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Thieret by the teaching of Laumeyer because of the following reasons: (a) it would have allowed the network terminal to output a print job to the

image output unit; and (b) it would have allowed the network terminal to perform the image processing and thereby reduced the workload in the image output unit, and allowed the image output unit to print faster for not having to process the image in the printer.

Thieret as modified by Laumeyer still does not teach wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

Shimomura, in the same area of transmitting data to a printer, teaches decreases bit length (N, column 1, lines 20-35) for each pixel (column 1, line 22) of the processed image data and then outputs (transmit, column 1, line 32) the bit decreased image data to the image output unit (copying machines, column 1, line 21) via communication line. (Transmission lines, column 1, line 29)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret/Laumeyer to include: wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Thieret/Laumeyer by the teaching of Shimomura because of the following reasons: (a) to obtain industrial advantages as taught by Shimomura at column 1, lines 40-50; and (b) it would have reduced time and cost to transmit the image data, as taught by Shimomura at column 1, lines 30-32.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laumeyer et al. (U.S. Patent # 5,572, 632) in view of Zandee et al. (U.S. Patent # 5,872,895) as applied to claim 1 above, and further in view of Thieret et al (U.S. Patent # 5,923,834).

Regarding claim 2: Laumeyer et al. teach wherein the image output unit (19, fig. 1) further includes: an engine unit; (24, fig. 1); a condition acquisition unit (control system, column 11, lines 50-60); and storing acquired condition information in a memory (converter 20, column 12, lines 27-28).

Laumeyer et al. in view of Zandee et al. do not teach automatically acquiring the condition information in accordance with a change in status of the engine unit.

Thieret teaches automatically acquiring the condition information (column 5, lines 14-30, column 6, lines 50-60) by an image processor (level 1, and level 2 controller, column 5, lines 1-13) in accordance with a change in status (column 4, lines 55-65) of an engine unit (column 4, lines 65) to control the quality of images output by a printer (column 4, lines 47-68).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Laumeyer et al. in view of Zandee et al. by: automatically acquiring the condition information in accordance with a change in status of the engine unit.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Laumeyer et al. in view of Zandee et al. by the teaching of Thieret because of the following reasons: (a) it would have allowed the print system to control

quality of images output by the print system due to changes of uncontrollable variables such as humidity or temperature and the age of the xerographic material as taught by Thieret at column 4, lines 47-67.

Response to Arguments

5. Applicant's arguments filed 12/24/2004 have been fully considered but they are not persuasive.

With respect to applicant's argument that Laumeyer and Zandee do not teach " the image processor for performing image processing of image data in accordance with the condition information acquired by the acquisition unit decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line." has been considered.

In reply: Laumeyer et al. teach an image processing apparatus system (10, column 10, lines 6-10) comprising: an acquisition unit (the function part of device 12, column 12, lines 27-45 for using a profile stored for color transformation) for acquiring the condition information (data in the profile), in response to the image output instruction; (fig. 2) an image processor (device 12, column 12, lines 35-45) for performing image processing of image data in accordance with the condition information (data in the profile) acquired by said acquisition unit.

Laumeyer as modified by Zandee do not teach wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

Shimomura, in the same area of transmitting data to a printer, teaches decreases bit length (N, column 1, lines 20-35) for each pixel (column 1, line 22) of the processed image data and then outputs (transmit, column 1, line 32) the bit decreased image data to the image output unit (copying machines, column 1, line 21) via communication line. (Transmission lines, column 1, line 29)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer/Zandee to include: wherein the image processor decreases bit length for each pixel of the processed image data and then outputs the bit decreased image data to the image output unit via communication line.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Laumeyer/Zandee by the teaching of Shimomura because of the following reasons: (a) to obtain industrial advantages as taught by Shimomura at column 1, lines 40-50; and (b) it would have reduced time and cost to transmit the image data, as taught by Shimomura at column 1, lines 30-32.

Action is Final, Necessitated by Amendment

6. Applicant's amendment necessitated the new ground of rejection presented in this office action. Therefore, THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTHS shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is (703) 305-0892

February 24, 2003

GABRIEL GARCIA
PRIMARY EXAMINER